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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,057	03/15/2005	Francesco Arduini	007511.00019	9026
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EXAMINER				
KIM, WESLEY LEO				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/528,057

**Applicant(s)**

ARDUINI ET AL.

**Examiner**

WESLEY L. KIM

**Art Unit**

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 September 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 3-11, 14, 17-23, 25, 26 and 29-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-11, 14, 17-23, 25, 26 and 29-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. This Office Action is in response to Amendment filed on 9/30/10.
  - Claims 1, 14, and 29 are amended.
  - Claims 2, 12-13, 15-16, 24, and 27-28 are cancelled.
  - Claims 1, 3-11, 14, 17-23, 25-26, and 29-32 are pending in the current Office Action.
  - The previously applied 35 U.S.C. 101 rejections have been overcome by the current amendments
  - This Action is made Final necessitated by amendments.

***Response to Arguments***

2. Applicant's arguments with respect to claims 1, 3-11, 14, 17-23, 25-26, and 29-32 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

- Claims 30-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 30-32 recite "the load parameter is further based on a load associated with a downlink connection and the availability of spreading codes". The specification does not support the limitation since the original specification (3/15/05) at Page 15:lines 24-29 only teaches "admission control techniques are more sophisticated since they take into account for instance the load on the down- link connection and availability of spreading codes". This citation does not support the limitation of the load parameter also being based on a load associated with a downlink connection and the availability of spreading codes. The specification actually states that the load parameter is only for the uplink (Original Specification Pages 14:lines 26-Page 15:line 24). Therefore the limitation of "the load parameter is further based on a load associated with a downlink connection and the availability of spreading codes" is new matter.

- Claims 30-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 30-32 recite "the load parameter is further based on a load associated with a downlink connection and the availability of spreading codes". The specification does not enable the limitation since the original specification (3/15/05) at Page 15:lines 24-29 is only enabling for "admission control techniques are more sophisticated since they take into account for instance the

load on the down- link connection and availability of spreading codes". This citation does not enable the limitation of the load parameter also being based on a load associated with a downlink connection and the availability of spreading codes. The specification actually enables that the load parameter is only for the uplink (Original Specification Pages 14:lines 26-Page 15:line 24). Therefore the limitation of "the load parameter is further based on a load associated with a downlink connection and the availability of spreading codes" is not enabled.

- The examiner notes that Claims 30—32 will be given the broadest reasonable interpretation during examination in view of the 35 U.S.C. 112 first paragraph rejections.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 8-9, 14, 23, and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hyvarinen et al (US 2002/0085540 A1) in view of Le (US 6556820 B1), Zuniga (US 7313091 B2), and Hoglund et al (US 7532892 B2).

**Regarding Claims 1, 14, and 29,** Hyvarinen teaches method for the provision of telecommunications services in an environment in which there are a plurality of systems working according to different standards and reachable from a terminal in an integrated way (Par.6 and Fig.2), wherein at least one of said services

can be provided by several systems of said plurality (Par.6, a service requested by user can be provided by either system), said method being characterized in that it incorporates a module (Par.20; LDB) capable, when there is a request of provision of said at least one service, of cooperating with said plurality of telecommunications systems (Par.20) : verifying the availability for the provision of the requested service of at least a first (WLAN) and a second (UMTS) system of said plurality (Par.6), the first system forming with regard to said second system, a resource to be exploited in a preferential way (Par.33-34 and Par.6, resource exploited to provide desired service if the system is available) and exploiting the resource in a preferential way by selecting, in an automatic and dynamic way, at least one between said first and said second system of the plurality for the provision of the requested telecommunication service (Par.6, upon user request, connection between first or second network occurs automatically and dynamically based on whether or not the service can be provided, therefore the resource is used in a way such that service can be provided (i.e. preferential way)) and Hyvarinen further teaches selecting, among said plurality of systems, at least said first and a second system (Abstract and Fig.1), in the cases of a provision request for a service of said second set (Abstract, i.e. provision request for data service, where data service is of second set), verifying the availability of said first system in order to provide said service of said second set (Par.6), as requested and providing said service of said second set as requested, through said first system if said first system (WLAN) is available (Par.6 and Par.33-34), if said first system is unavailable, for the transmission of a said service of said

second set as requested, verifying the availability of said second system (UMTS) to provide said service of said second set, as requested (Par.6 and Par.33-34, if first system not available then uses second system), and providing and not providing said service of said second set, as requested, depending on whether or not said second system is available for the provision of said service of said second set, as requested (Par.6 and Par.33-34, service may or may not be provided based on whether or not the network has enough resources). From Hyvarinen it is obvious that the teaching of utilizing another system in case a first system is not capable of handling the requested service could be applicable to not only the specific systems as taught in Hyvarinen but to other various systems (Par.55); however Hyvarinen **does not expressly teach** subdividing the telecommunication services into a first set of telecommunication services to be substantially provided through the second telecommunication system, and a second set of telecommunication services to be provided through the first telecommunication system and the second telecommunication system, in case of a request for provision of a telecommunication service from the first set, verifying the availability of the second telecommunication system for providing the telecommunication service of the first set as requested, supplying and not supplying respectively the telecommunication service of the first set through the second telecommunication system, wherein the first telecommunication system is not configured to satisfy the initial Quality of Service (QoS) levels of the first set of telecommunication services, wherein the second telecommunication system is configured to satisfy the initial QoS levels of the first

set of telecommunication services, and wherein the first telecommunication system is configured to transmit more bits per second as compared to the second telecommunication system.

Le teaches that subdividing the telecommunication services into a first set of telecommunication services (Col.1:lines 39-45, image and data) to the substantially provided through the second telecommunication system (Col.1:lines 39-45, 3G), and a second set of telecommunication services (Col.1:lines 39-45, voice) to be provided through the first telecommunication system and the second telecommunication system (Col.1:lines 39-45 and Col.10:lines 25-35, 2G and 3G both provide voice) and in case of a request for provision of a telecommunication service from the first set (i.e. images and data), verifying the availability of the second telecommunication system for providing the telecommunication service of the first set as requested, supplying and not supplying respectively the telecommunication service of the first set through the second telecommunication system (Col.1:lines 39-45, images and data can only be provided by 3G), wherein the first telecommunication system is not configured to satisfy the initial Quality of Service (QoS) levels of the first set of telecommunication services (Col.1:lines 39-45, i.e. 2G cannot provide images and data), wherein the second telecommunication system (i.e. 3G) is configured to satisfy the initial QoS levels of the first set of telecommunication services (Col.1:lines 39-45, 3G can satisfy image QOS levels due to higher bandwidth), and wherein the first telecommunication system is configured to transmit more bits per second as compared to the second telecommunication system (Col.1:lines 39-45, 3G provides



higher bandwidth). At the time of the invention, there had been a recognized problem or need in the art to send telecommunications services over a plurality of different networks (Hyvarinen: Par.6, teaches concept of transmitting over a first network and also over a second network). Based on the combined teachings of Hyvarinen with Le, there are a finite number of identified and predictable potential solutions to the recognized need or problem which is to transmit voice over a 2G network first and then a 3G network second or to transmit voice over a 3G network first and then a 2G network second. One of ordinary skill in the art could have pursued the known potential solutions with a reasonable expectation of success since both solutions provide the ability for the user to transmit voice communications based upon the available networks. Therefore, the claimed subject matter would have been obvious to a person having ordinary skill in the art at the time the invention was made. However the combined teachings of Hyvarinen and Le do not expressly teach detecting the availability of the second telecommunication system by defining a load parameter of the second telecommunication system and by considering the second telecommunication system as unavailable when the load parameter reaches a threshold value, wherein the load parameter is based on uplink load as a function of an interference contribution, signal to noise ratio, and a service activity factor. However, **Hyvarinen and Le do not expressly teach** detecting the availability of the second telecommunication system by defining a load parameter of the second telecommunication system and by considering the second telecommunication system as unavailable, wherein the load parameter is based on

uplink load as a function of an interference contribution, signal to noise ratio, and a service activity factor.

Zuniga teaches detecting the availability of the second telecommunication system by defining a load parameter of the second telecommunication system (Col.2:lines 50-60, equation 2 is the load parameter) and by considering the second telecommunication system as unavailable when the noise rise value reaches a threshold value (Col.2:lines 66-67 and Equation 1 and Col.3:lines 20-31, it can be seen as load gets closer to 1 noise rise becomes closer to infinity. When noise rise exceeds a value, congestion occurs, which means system is unavailable, otherwise system is available), wherein the load parameter (Col.2, equation 2) is based on uplink load as a function of an interference contribution (Col.2:lines 50-60, in equation 2, "i" represents ration of  $I_{OC}$  to  $I_{OR}$ , which is interference), signal to noise ratio, and a service activity factor (Col.2:lines 50-63,  $p_{Rv}$  represents the signal to noise ratio bit rate and activity factor). Therefore, to one of ordinary skill in the art, it would have been obvious to modify Hyvarinen and Le with Zuniga at the time of the invention such that the second telecommunication system is determined to be unavailable based on noise rise which is based on load parameter so that further congestion can be prevented, thereby reducing the time that the system is in congested state which leads to better QOS for users. However **Hyvarinen, Le, and Zungia do not expressly teach** considering a system as unavailable when the load parameter reaches a threshold value.

Hoglund teaches that it is well known in the art that when a load value exceeds a threshold to deem the network in a high load state (Col.10:lines 36-44 and Col.2:lines 9-15 and Col.14:lines 40-54, based on comparison, if in high load state, decides whether to reject user (i.e. network unavailable)). Therefore, to one of ordinary skill in the art, it would have been obvious to modify Hyvarinen, Le, and Zungia at the time of the invention such that the second telecommunication system is determined to be unavailable if the load parameter reaches a threshold value, as taught by Hoglund such that further congestion can be prevented, thereby reducing the time that the system is in congested state which leads to better QOS for users.

**Regarding Claim 8**, Hyvarinen teaches that selecting is carried out by selecting the systems in the group formed by the mobile communication systems (Par.6, first or second network is selected based on availability).

**Regarding Claims 9 and 23**, Hyvarinen teaches it is obvious that the teaching of utilizing another system in case a first system is not capable of handling the requested service could be applicable to not only the specific systems as taught in Hyvarinen but to other various systems (Par.55 and Fig.1, selecting can obviously select from UMTS/ WLAN/802.11 systems).

**Regarding Claims 30-32**, Hoglund teaches that it is well known in the art that load parameter is based on load associated with downlink connection and the availability of resources (Col.10:lines 36-38 and Col.8:lines 35-36, a skilled artisan recognizes that in CDMA system (Col.8:lines 15-22) the resources include spreading codes).

6. Claims 3-6 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hyvarinen et al (US 2002/0085540 A1), Le (US 6556820 B1), Zuniga (US 7313091 B2), and Hoglund et al (US 7532892 B2) in further view of Kim (US 6044091).

**Regarding Claims 3-5 and 17-19**, Hyvarinen, Le, Zuniga, and Hoglund teaches all the limitations as recited in claims 2 and 14, respectively, and the combination further teaches verifying the unavailability of said second system for the provision of said service of said subset as requested (Hyvarinen Par.33-34), however the combination **is silent on** once said unavailability has been verified, the step of re-negotiating the provision request whereby said service of said subset is again requested for the provision in a condition of modified communication resources.

Kim teaches that it is well known in the art that when a service requested cannot be provided due to a lack of resources, a renegotiation will occur to obtain the service at a lower quality of service (Col.5:23-28). To one of ordinary skill in the art, it is obvious that this teaching reads the limitation of once said unavailability has been verified, the step of re-negotiating the provision request whereby said service of said subset is again requested for the provision in a condition of modified communication resources.

To one of ordinary skill in the art, it would have been obvious to modify Hyvarinen, Le, Zuniga, and Hoglund with Kim such that once said unavailability has been verified, the step of re-negotiating the provision request whereby said service

of said subset is again requested for the provision in a condition of modified communication resources, to provide a method where service is provided to the end user even if it is at a quality slightly lower than desired.

**Regarding Claims 6 and 20**, Hyvarinen further teaches the first set includes services of conversational class (Par.22, voice communication is conversational class and voice is obviously available in both networks) and from the combination of Hyvarinen and Fenton it is obvious that the second set could include streaming services (Almgren, Page 1:lines 18-22, i.e. video is a background service).

7. Claims 7 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hyvarinen et al (US 2002/0085540 A1), Le (US 6556820 B1), Zuniga (US 7313091 B2) and Hoglund et al (US 7532892 B2), and Kim (US 6044091) in further view of Shavit et al (US 2002/0160757 A1).

**Regarding Claims 7 and 21**, the combination of Hyvarinen, Le, Zuniga, Hoglund, and Kim teach all the limitations as recited in claims 6 and 18, however **the combination does not expressly teach** that the second set includes streaming class services.

Shavit teaches that it is well known in the art that a first set of services provided by 2G systems include voice and SMS which a second set of services provided by 3G systems includes streaming services (Par.24).

Therefore, to one of ordinary skill in the art, it would have been obvious to modify Hyvarinen, Le, Zuniga, Hoglund and Kim with Shavit to provide streaming

services only within the 3G systems so that users are provided with as many services as are available to them within the systems.

**Regarding Claim 22**, from Hyvarinen it is clear that the means are configured to co-operate with mobile communications systems including the telecommunications systems of the plurality (Abstract).

8. Claims 10-11 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hyvarinen et al (US 2002/0085540 A1), Le (US 6556820 B1), Zuniga (US 7313091 B2) and Hoglund et al (US 7532892 B2) in further view of Duncan et al (US 7283550 B2).

**Regarding Claims 10 and 25**, Hyvarinen, Le, Zuniga, and Hoglund teach all the limitations as recited in claim 1 and 14, however the combination **does not expressly teach** verifying the availability of the first/second telecommunication system on the basis of a criterion of admission control of the users by detecting the performance degradation of the first telecommunication system as the number of users increases.

Duncan teaches verifying the availability of a first/second telecommunication system on the basis of a criterion of admission control of the users by detecting the performance degradation of the first telecommunication system as the number of users increases (Col.1:lines 27-34 and Col.6:lines 1-5, when there are insufficient resources, that means that a load threshold has been reached).

Therefore to one of ordinary skill in the art, it would have been obvious to modify Hyvarinen, Le, Zuniga, and Hoglund with Duncan such that availability of a

first telecommunication system is verified on the basis of a criterion of admission control of the users by detecting the performance degradation of the first telecommunication system as the number of users increases, to provide a method of determining whether or not resources can be efficiently and fairly distributed to the user requesting service provision based on the number of users and remaining resources.

**Regarding Claims 11 and 26**, Duncan further teaches detecting the total bit rate available to the active user on the first communication system and considering the first telecommunication system as unavailable for a new user when the bit rate available upon the possible determination of the new user reaches a threshold value (Col.1:27-34 and Col.5:line 62-Col.6:line 5, data rate is bit rate. Pole capacity is the amount of users utilizing resources).

### ***Conclusion***

- Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory

period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

- Any inquiry concerning this communication or earlier communications from the examiner should be directed to WESLEY L. KIM whose telephone number is (571)272-7867. The examiner can normally be reached on Monday-Friday 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George Eng/  
Supervisory Patent Examiner, Art Unit 2617

/Wesley L Kim/  
Examiner, Art Unit 2617